

【NAME OF DOCUMENT】 ABSTRACT

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【OBJECT】 To improve the execution performance of a program which makes indirect array reference by performing data prefetching also on an indirect reference array while reducing an instruction overhead.

【ACHIEVEMENT MEANS】 Since a conventional compiler cannot detected locality in data reference, an indirect reference array is not subject for data prefetching. In an indirect reference array, if a tendency that values of indices in the indirect reference array monotonously increase or decrease is detected by a user instruction or analysis by a compiler, by using the information, issuing of redundant prefetch instructions is suppressed, and data prefetching is enabled to be performed also on an indirect reference array.

【SELECTED DRAWING】 Fig. 1